

What is claimed is:

1. An electrochemical gas sensor, comprising:
  - a first substrate having a first surface;
  - a first sensing electrode and a first counter electrode being spaced apart from one another and deposited on said first surface;
- 5 a first electrolytic material having a first thickness and being in contact with said first sensing electrode for carrying a flow of ions;
  - a second substrate having a second surface;
  - 10 a second sensing electrode and a second counter electrode being spaced apart from one another and deposited on said second surface;
  - a second electrolytic material having a second thickness and being in contact with said second sensing electrode for carrying a flow of ions; and
  - said second thickness being greater than said first thickness.

2. The electrochemical gas sensor according to claim 1, wherein said first and said second substrates are combined.

3. The electrochemical gas sensor according to claim 1, further including a first reference electrode in contact with said first electrolytic material and being spaced apart from said first sensing and said first counter electrodes.

4. The electrochemical gas sensor according to claim 1, further including a second reference electrode in contact with said second electrolytic material and being spaced apart from said second sensing and said second counter electrodes.

5. The electrochemical gas sensor according to claim 1, wherein said first and said second sensing electrodes are the same material.

6. The electrochemical gas sensor according to claim 1, wherein said first and said second sensing electrodes are different materials.

7. The electrochemical gas sensor according to claim 1, further including a solution in contact with and for wetting said first electrolytic material and said second electrolytic material.

8. The electrochemical gas sensor according to claim 7, further including a reservoir for containing said solution.

9. An electrochemical gas sensor, comprising:  
a first substrate having a first surface;  
a first sensing electrode and a first counter electrode being spaced apart from one another and deposited on said first surface;  
5 a second substrate having a second surface;  
a second sensing electrode and a second counter electrode being spaced apart from one another and deposited on said second surface; and  
said first sensing electrode being of a material that is more sensitive to detecting a gas than a material of said second electrode.

10. The electrochemical gas sensor according to claim 9, wherein said second sensing electrode includes a material inert to a gas.

11. The electrochemical gas sensor according to claim 9, wherein said second sensing electrode includes Gold.

PROSECUTOR'S COPY

12. The electrochemical gas sensor according to claim 9, further including a solution in contact with and for wetting said first electrolytic material and said second electrolytic material.
13. The electrochemical gas sensor according to claim 12, further including a reservoir for containing said solution.
14. The electrochemical gas sensor according to claim 9, further including a first reference electrode being spaced apart from said first sensing and said first counter electrodes.
15. The electrochemical gas sensor according to claim 9, further including a second reference electrode being spaced apart from said second sensing and said second counter electrodes.
16. An electrochemical gas sensor comprising:
  - a substrate having a surface;
  - a counter and reference electrode being deposited on said surface;
  - a first sensing electrode and a second sensing electrode, being spaced apart from one another and from said counter and reference electrode, being deposited on said surface;
  - a first electrolytic material having a first thickness and being in contact with said first sensing electrode for carrying a flow of ions;
  - a second electrolytic material having a second thickness and being in contact with said second sensing electrode for carrying a flow of ions; and
  - said second thickness being greater than said first thickness.